

REMARKS

Prior to entry of this amendment, claims 1-37 are pending in the subject application. By the instant amendment, claims 1 and 2 are amended, claims 38 and 39 are added and claims 12-37 are canceled, claims 12-37 having been withdrawn from consideration in response to the restriction requirement that was mailed on July 18, 2005. Claims 1 and 38 are independent.

Applicants appreciate the Examiner's acknowledgement of applicants' claim for foreign priority and receipt of a certified copy of the priority document.

Applicants also appreciate the Examiner indication that the IDS's filed on December 4, 2003, March 15, 2004, and June 23, 2004, have been considered.

Applicants request, in the next Office action, that the Examiner indicate the acceptability of the drawings filed on December 4, 2003.

Claims 1-11, 38 and 39 are presented to the Examiner for further or initial consideration on the merits.

A. Introduction

In the outstanding Office action, mailed November 14, 2005, the Examiner objected to claim 2; rejected claims 1, 2, 3, 8, 10 and 11 under 35 U.S.C. § 102(e) as being anticipated by U.S. Patent No. 6,663,266 to Min et al. (hereinafter "the Min et al. reference"); rejected claim 4 under 35 U.S.C. § 103(a) as being obvious over the Min et al. reference in view of U.S. Patent No. 6,243,112 to Kuhman et al. (hereinafter "the Kuhman et al. reference"); rejected claims 5 and 6 under 35 U.S.C. § 103(a) as being obvious over the Min et al. reference in view of U.S. Patent No. 6,273,555 to Hess (hereinafter "the Hess reference"); rejected claim 7 under 35 U.S.C. § 103(a) as being obvious over the Min et al. reference in view of U.S. Patent No. 5,859,654 to Radke et al. (hereinafter "the Radke et al. reference"); rejected claim 9 under 35

U.S.C. § 103(a) as being obvious over the Min et al. reference in view of U.S. Patent No. 6,019,457 to Silverbrook (hereinafter “the Silverbrook reference”); and rejected claims 1, 2, 8 and 9 under 35 U.S.C. § 102(b) as being anticipated by the Silverbrook reference.

B. Objection to Claim 2

In the outstanding Office action, the Examiner objected to claim 2 and asserted that the use of the term “appropriate” therein is indefinite. Claim 2 is amended by the instant amendment. In particular, the term “appropriate” is deleted from claim 2. Accordingly, applicants respectfully request that this objection be reconsidered and withdrawn.

C. Asserted Anticipation Rejection Over the Min et al. Reference

In the outstanding Office action, the Examiner rejected claims 1, 2, 3, 8, 10 and 11 under 35 U.S.C. § 102(e) as being anticipated by the Min et al. reference. Claim 1 is amended by the instant amendment. Applicants respectfully submit that the Min et al. reference fails to disclose, or even suggest, each and every element of claim 1 for at least the reasons set forth below.

Claim 1 currently recites, in part, “a hydrophobic coating layer formed directly and exclusively on an outer surface of the metal layer.”

In the outstanding Office action, the Examiner asserted that the Min et al. reference discloses “a hydrophobic coating layer (FIG. 6, element 12d) formed exclusively on an outer surface of the metal layer.” *Office action of November 14, 2005, at page 4*. However, the layer 12d is formed directly on layer 12c, the thermal conduction layer. Layer 12c is not a metal layer. Rather, it is an electrically non-conductive layer formed of diamond-like carbon or silicon carbide. *See, e.g., the Min et al. reference at col. 5, lines 54-58*. Accordingly, applicants respectfully submit that the Min et al. reference fails to disclose, or even suggest, a hydrophobic

coating layer formed directly and exclusively on an outer surface of the metal layer, as recited in claim 1.

Applicants respectfully submit that claim 1 is allowable over the Min et al. reference for at least the reasons set forth above. The remaining rejected claims, viz., claims 2, 3, 8, 10 and 11, depend, either directly or indirectly, from claim 1 and are believed to be similarly allowable. Accordingly, applicants respectfully request that this rejection be reconsidered and withdrawn.

As an additional matter, applicants note that, in rejecting claim 10, the Examiner asserted that the Min et al. reference discloses a heat conductive layer in FIG. 6, element 191, of the Min et al. reference. *Office action of November 14, 2005, at page 4*. However, in rejecting claim 1, the Examiner asserted that the same element 191 is a metal layer. *Office action of November 14, 2005, at page 3*. Applicants respectfully submit that element 191 can be, at most, one of these two layers.

D. Asserted Obviousness Rejections of Claims 4-7 and 9

In the outstanding Office action, the Examiner rejected claims 4-7 and 9 under 35 U.S.C. § 103(a) as being obvious over the Min et al. reference in view of the Kuhman et al., Hess, Radke et al., and Silverbrook references. However, applicants respectfully submit that none of these references supply the teachings noted above as missing from the Min et al. reference. Accordingly, applicants respectfully submit that claims 4-7 and 9 are allowable for at least the reasons set forth above regarding claim 1.

E. Asserted Anticipation Rejection over the Silverbrook Reference

In the outstanding Office action, the Examiner rejected claims 1, 2, 8 and 9 under 35 U.S.C. § 102(b) as being anticipated by the Silverbrook reference, which was cited by the applicants in an IDS at the time the application was filed. Applicants respectfully traverse this

rejection, and submit that the Examiner failed to set forth a *prima facie* case of obviousness for at least the reasons set forth below.

In the outstanding Office action, the Examiner asserted that the Silverbrook reference discloses “a hydrophobic coating layer (FIG. 12, element 144) formed exclusively on an outer surface of the metal layer (Column 9, lines 11-14). *Office action of November 14, 2005, at page 10.* Applicants respectfully disagree with this characterization of the Silverbrook reference.

In particular, applicants note that the Silverbrook reference discloses element 144 of FIG. 12 to be a passivation layer. *See, e.g., col. 9, lines 11-14, which state that the passivation layer 144 is “a 0.5 micron layer of tantalum, or other materials.”* However, the Silverbrook reference fails to disclose, or even suggest, that element 144 is hydrophobic. Indeed, the Silverbrook reference fails to characterize *any* element described therein as being hydrophobic. Accordingly, applicants respectfully submit that the Silverbrook reference fails to disclose, or even suggest, each and every element of claim 1.

In view of the above, applicants respectfully submit that claim 1 is allowable over the Silverbrook reference. The remaining rejected claims, viz., claims 2, 8 and 9, depend, either directly or indirectly, from claim 1 and are believed to be similarly allowable. Accordingly, applicants respectfully request that this rejection be reconsidered and withdrawn.

F. New Claims

Claims 38 and 39 are added by the instant amendment. No new matter is added. Support for claims 38 and 39 can be found in the specification and figures as originally filed, e.g., FIGS. 3A-3B. Applicants respectfully request entry and examination of claims 38 and 39, and respectfully submit that claims 38 and 39 are allowable over the cited prior art.

G. Conclusion

Since the cited prior art relied on to reject the claims of the subject application fails to anticipate or render obvious the present invention, applicants respectfully submit that claims 1-11, 38 and 39 are in condition for allowance, and a notice to that effect is respectfully requested.

If the Examiner believes that additional discussions or information might advance the prosecution of the instant application, the Examiner is invited to contact the undersigned at the telephone number listed below to expedite resolution of any outstanding issues.

In view of the foregoing amendments and remarks, reconsideration of this application is earnestly solicited, and an early and favorable further action upon all the claims is hereby requested.

Respectfully submitted,

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